

THREE APPARENTLY UNDESCRIBED GEOMETRID MOTHS FROM THE SOUTHWEST

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During the latter part of June in 1947 Mrs. Sperry and the author made camp with Dr. and Mrs. Charles P. Alexander on the South Fork of the Little Colorado River in the White Mountains of Arizona. The collecting was fair both for Tipulids and Geometrids in spite of the dry season. On the 25th of June Mrs. Sperry, who always catches all the rare insects, took a single female belonging in the Hemitheinae and this little green had given the author considerable trouble until Dr. Comstock and Lloyd Martin appeared with samples of their 1947 Santa Rita Mountains catch, in which there were four more of the species which the author pounced upon at once, and the presence of a male established the genus and allows the author to describe

CHLOROCHLAMYS MARTINARIA, n. sp.

MALE: Palpi, front, antennae beneath and legs ochreous buff, antennae above and collar light buff. Thorax, abdomen and all wings olive green (Ridgway color) heavily irrorate with gray white. The antennae are short branched, the pectinations claviform, the apex dentate. Hind tibiae swollen, with hair pencil and lacking median spurs; hind tarsi short. Abdomen tufted laterally on the eighth segment. Forewing, costa narrowly naples-yellow flecked more or less from base to apex with dark brown strigations. Most specimens show very obscure light lines; t.a. line, when present, from just beyond $1/3$ out on the costa, narrow and irregular to inner margin at $1/3$ out from base; t.p. line stronger, from $3/4$ out on costa bulging outward to the cell, concave across cell, curving outward again at line 3, inward again at line 2 and outward to inner margin at $3/4$ out from base. These lines are made of a thickening of the light strigations and the median area is slightly darker than the remainder of the wing. Discal dash can only rarely be seen as a slight darkening of the ground color, it is usually absent. On the secondaries the lines continue as on primaries, the t.a. line is usually obsolete and the t.p. line usually discernible though obscure. There is no discal dot. Fringes gray with tiny naples yellow dots basally at the ends of the veins. Beneath pale lumiere green with a silken lustre, the costa colored narrowly as above, the secondaries slightly lighter than the primaries. There are no strigations or discal dots on either wing.

The female is somewhat larger than the male, the lines stronger and tending to be accentuated on the veins by light spots especially on veins 1 and 2 of the primaries. There is a light green hair line at the base of the fringes broken by light dots on the veins and there is a shallow scallop of the outer margin at vein 5 of the secondaries. The antennæ are dentate and there is a square light spot dorsally on the third segment of the abdomen.

When faded in relaxing or from flying in the rain, the color of these insects is light ochreous buff with more or less tinge of green. Expanse, male, 17 to 20 mm.; female, 20 to 23 mm.

Holotype, male, Madera Canyon, Santa Rita Mountains, Ariz., August 15, 1947 (J. A. Comstock and Lloyd Martin) and in the collection of the Los Angeles County Museum.

Allotype, female, South Fork Camp, Little Colorado River, White Mountains, Ariz., June 25, 1947 (Grace H. Sperry) and in the collection of Grace H. and John L. Sperry.

Paratypes, 37 males, 20 females, Madera Canyon, Santa Rita Mountains, Ariz., July 16 to August 11, 1947, August 20 and August 30, 1946 (Dr. J. A. Comstock and Lloyd M. Martin) and in the Los Angeles County Museum, U. S. National Museum, Canadian National Museum, Museum of Comparative Zoölogy, American Museum of Natural History, British Museum and the Sperry collection.

It gives me great pleasure to name this interesting species in honor of our friend Mr. Lloyd M. Martin, Assistant Curator at the Los Angeles Museum, president of the Lorquin Club and one of the most active and enthusiastic lepidopterists it has ever been our good fortune to know. May there be many more Madera Canyons in his entomological pilgrimages and many more interesting species to enrich our lists of the fauna of the Southwest.

This species belongs immediately before *C. appellaria*, Pears. in the list, the pink color of the latter of course separating the species at once. The ædeagus in the male genitalia is the same needle-like type but the apex of the organ is more heavily decorated with small tooth-like cornuti. The size and obscure maculation separates the species from all others of the genus as do also the short clavate pectinations of the male antennæ.

Since 1934 there has been in the Sperry collection a single female specimen of the genus *Drepanulatrix*, species unknown. Through the kindness of Dr. J. A. Comstock and Lloyd Martin the author has been enabled to examine the species in the Los Angeles County Museum collection and to find therein three more specimens of this species, one of which being a male allows the author to describe.

DREPANULATRIX RUTHIARIA, n. sp.

Both sexes: Palpi, front and legs, light ochraceous buff; collar, thorax, abdomen and all wings cartridge buff (Ridgway color), antennæ gray-brown.

Male antennæ bipectinate, pectinations long, apex simple; female antennæ simple. Maculation of the wings brown-black. Forewings: there are two squarish heavy spots on the costa., the first, about $3/4$ mm. square, just over $1/3$ out on the costa the second, slightly smaller, at $2/3$. There are two small spots on vein 1 near the inner margin at $4/10$ and $7/10$ out from the base, the lines which should connect these spots with those on the costa are almost entirely missing in the male and quite so in the female. The subterminal line of dark triangular dots which appears in so many species of this genus is indicated in the holotype by four indistinct spots which show the direction of the line to be from 1 mm. inside apex at costa curving inward across cell toward the place where the t.p. line should be thence parallel to the imaginary t.p. toward inner margin, fading out at vein 2. A small distinct discal dot, distad of and below the first costal blotch. Fringes concolorous with wing. Secondaries: A single line about $1/2$ mm. wide from $2/3$ out on inner margin goes straight toward the center of the wing, fading out as it reaches the cell. There is no discal dot; fringes concolorous with wing. All wings very sparsely irrorate with dark brown atoms. Beneath lighter, almost silky, no maculation, a minute discal dot on secondaries, none on primaries.

The maculation of the female is the same as that of the male but the spots are smaller and less distinct and the line on the secondaries tends to become obsolete. Expanse 27 to 28 mm.

I note that this species has been examined by Dr. McDunnough, Mr. F. H. Benjamin and Mr. Frederick Rindge, whose label states that it is close to *bifilata* Hulst, which is quite correct. The female genitalia offers little information except that it belongs near *bifilata* in the list. The male genitalia are almost identical but there seem to be two short spines in the armature of the vesica to three in *bifilata*, the valvæ seem shorter and broader and the saccus more constricted distally.

Holotype, male, Charleston Mountains, Nevada, May 14, 1934 (Dr. J. A. Comstock) and in the collection of the Los Angeles County Museum.

Allotype, female, Charleston Mountains, Nevada, May 13, 1934 (G. H. and J. L. Sperry) and in the Sperry collection.

Paratypes, 10 males, Bailey Park, Panamint Mountains, Inyo

Co., Calif., July 4, 1940 (Henne); 2 females, data as in holotype, in the Los Angeles County Museum and Sperry collection.

It gives me great pleasure to name this rare species in honor of our friend Mrs. John A. Comstock, who probably captured part of the Nevada series, perhaps most of it, herself, with her husband, our companion on many a gorgeous collecting trip and whose ability to conjure delectable dinners from a camp cook-stove is entirely beyond belief. May the time come soon when we may all take the road again together.

This species should be placed after *bifilata* Hulst in the list. The maculation is similar but more obscure and *bifilata* is sexually dimorphic which *ruthiaria* is not. Antennal pectinations are longer than in *monicaria secundaria* and *carnearia* and it lacks the reddish tinges of *lutearia* and *columbiaria*; maculation, size and shape of forewing separate it from all other species in this genus. It is possible that this may be a form of *bifilata*, far removed from the parent stock but this can only be determined by breeding the species.

Among the specimens brought from the Los Angeles County Museum there is a short series of another Drepanulatrix which on careful examination proves apparently undescribed,

DREPANULATRIX RINDGEARIA, n. sp.

Both sexes: Palpi, front, legs, thorax and ground color of forewings, light vinaceous cinnamon (Ridgway color); collar and antennal pectinations brown-black; abdomen and secondaries light cinnamon, maculation of all wings black-brown. Male antennae bipectinate, pectinations long, apex simple. Female antennae simple.

Forewing: T.a. line starts from a spot on the costa at $1/4$ out from base at right angles to costa, curves evenly through cell then straight to inner margin at $1/3$ out from base. There is a wide (1 mm.) median shade starting from an obscure blotch on the costa at just beyond $1/2$ going straight across the wing just outside the large, oval, dark discal dot and narrowing to $1/2$ mm. in width at the inner margin at $2/3$. T.p. line starts at $3/4$ out from base curves evenly through the cell to line 3 then straight to inner margin where it touches the outer edge of median shade. The usual line of dark triangular dots appears between the t.p. line and the outer margin, starting about 2 mm. from apex on costa, the line goes subparallel to the t.p. line to inner margin, the dots appearing between the veins. There is a dark dash exactly at the apex, fringes concolorous with the ground color of the wing, the whole wing dusted lightly with dark atoms. Second-

aries: much lighter than the primaries, a median line $7/10$ out from the base on inner margin starts at a heavily shaded spot and goes toward the center of the wing, fading out before reaching the cell, there is a start of an outer line in small connected blotches above the angle. The wing is lightly dusted near anal angle and along inner margin with dark brown atoms. A small dark discal dot. Fringes concolorous with wing.

Beneath creamy cinnamon, without maculation, discal dots on both wings showing dimly through. The female tends to be lighter and to have more of an ochreous tinge than does the male, which is often the case in this genus.

The maculation, though lighter, is as distinct as in the male. Expanse, male, 32 to 33 mm.; female, 32 to 34 mm

Holotype male, Round Valley, Inyo Co., Calif., Aug. 10, 1929 and in the collection of the Los Angeles County Museum.

Allotype, female, same data, Aug. 4-6, 1929 and in the Sperry collection.

Paratypes, 4 males, 4 females, same data and in the collection of the Los Angeles County Museum and the Sperry collection.

This species is nearest *hulsti* Dyar but is more heavily and evenly maculated, the outer row of dots parallels the t.p. line on the forewing instead of approaching it as in *hulsti* and the apical dash is usually missing in *hulsti*. The genitalia are very close but the armature of the vesica is lighter in *rindgearia* and the edge is less heavily dentate. The wings of *hulsti* are broad, those of *rindgearia* considerably narrower although the expanse is the same. In an average *hulsti* the distance from apex to anal angle is 13 mm. in *rindgearia* 10 $1/2$ mm. and the perpendicular distance from anal angle to costa is 11 mm. in *hulsti* and 8 $1/2$ mm. in *rindgearia*.

Breeding, of course, may find that this is a form of *hulsti* but from our present knowledge of the *Drepanulatrix* species it would seem to be a good species.

It gives me pleasure to name this species in honor of my friend, Mr. Frederick Rindge, who, I suspect, knows more about this genus than do I, with the hope that he may one day find time to revise it to the profit of us all.